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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,373	07/09/2003	Michel Arseneau	A-8632	1385
7590	06/20/2005		EXAMINER	
Hoffman, Wasson & Gitler, P.C. Suite 522 2361 Jefferson Davis Highway Arlington, VA 22202			TRIEU, THAI BA	
			ART UNIT	PAPER NUMBER
				3748
DATE MAILED: 06/20/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/615,373	ARSENEAU, MICHEL
Examiner	Art Unit	
Thai-Ba Trieu	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 18 April 2005.

2a) This action is FINAL.                            2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-5 and 7-16 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) 5,7-10 and 12 is/are allowed.

6) Claim(s) 1-4,11 and 13-16 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_.

### **DETAILED ACTION**

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 18, 2005 has been entered.

Claims 1; 3, 5, 9, 11 were amended; claim 6 was cancelled; and claims 14-16 were added.

#### ***Specification***

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Specifically,

- In claim 14, the recitation of "**means for creating vortex**" should be incorporated with the specification.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically,

- Line 1, the recitation of “ a second combustion chamber” renders the claim indefinite, since it is not clear that why the combustion chamber is formed in the engine is the second one; however, there is no primary combustion chamber. Applicant is required to identify which one is the primary, and which one is the secondary.

Claim 14 is rejected under 35 U.S.C. 112, sixth paragraph because of the recitation of “**a means for creating a vortex**”. Which element(s)/structure(s) is/are to be considered to create a vortex.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

***Claims 1-4, 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salvatore et al. (Patent Number GB 2 020 739 A), in view of Gail (Patent Number 5,375,564).***

Salvatore discloses an internal combustion engine comprising:

    a body (1), said body having an inner surface, an outer surface, and an axis (See Figure 2);

    a shaft (9) rotatably mounted within said body (1) (See Figure 2);

    a cylinder (5) attached to said shaft (9) (See Figure 2);

    a pair of pistons (4) within said cylinder (5)(See Figure 2);

an intake port (14, 12) in said cylinder (5);  
each piston (4) having a piston face, each piston face having an edge  
(See Figure 1);  
wherein said body (1) has a centerline (Not Numbered) ; and said  
shaft (9) extending along said body centerline (Not Numbered) (See  
Figure 2);  
a combustion chamber (10) formed in said shaft (9) (See Figures 1-2);  
a second combustion chamber (Not Numbered) formed between said pair  
of pistons (4) (See Figure 2);  
an ellipsoid guide (25) in said body (1) (See Figure 2);  
said pair of pistons (4) retained in said ellipsoid guide (25) (See Figure 2).

However, Savaltore fails to disclose piston faces having a depression to create  
vortex/a means for creating vortex.

Gail teaches that it is conventional in the internal combustion engine art, to utilize  
piston faces having a depression (50) to create vortex/ a means for creating vortex  
formed along the edge of the piston face near said intake port (63, 47) (See Figure 1,  
Column 9, lines 56-62).

It would has been obvious to one having ordinary skill in the art at that time the  
invention was made, to have utilized piston faces having a depression, as taught by  
Gail, to improve the performance efficiency of the Savaltore device.

***Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Savaltore et al. (Patent Number GB 2 020 739 A), in view of Gail (Patent Number 5,375,564), and further in view of Aiti (Patent Number 3,766,900).***

The modified Savaltore device discloses the invention as recited above; however, fails to disclose a baffle on the piston face.

Aiti teaches that it is conventional in the internal combustion engines art, to utilize a baffle (9) on the piston face to direct exhaust gases to an exhaust outlet (See Figures 1-4).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized a baffle on the piston face, as taught by Aiti, to improve the efficiency of the modified Savaltore device.

***Claims 13 and 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Savaltore et al. (Patent Number GB 2 020 739 A), in view of Gail (Patent Number 5,375,564), and further in view of Alexander, Jr. (Patent Number 3,601,008).***

The modified Savaltore device discloses the invention as recited above; however, fails a baffle on the piston face and means for creating a vortex being a flat ramp.

Alexander teaches that it is conventional in the engine piston art, to utilize a baffle (4) on the piston face and a flat ramp (2) to create a vortex (See Figures 1 and 6-7).

It would have been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized a baffle on the piston face and a flat ramp to create a vortex, as taught by Alexander, Jr., to improve the efficiency of the modified Savaltore device.

***Allowable Subject Matter***

Claims 5, 7-10, and 12 are allowed.

Claim 11 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Walters et al. (US Patent Number 5,390,634) disclose an internal combustion engine having high performance combustion chamber defined by a depression head.
- Nakanishi et al. (US Patent Number 4,271,803) disclose an internal combustion engine having a flat and shallow depression (19) formed in the central portion of the top face of the piston (2).
- Meyer (US Patent Number 2,181,705) discloses a bi-rotary engine having a web or baffle (76) at the inner end of the inlet passage, which web extends transversely of the passage to provide a main inlet port (78).
- High (US Patent Number 1,901,448) disclose an internal combustion engine having a central depression (71).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (571) 272-4867. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB  
June 17, 2005

  
Thai-Ba Trieu  
Patent Examiner  
Art Unit 3748